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FIG. 1

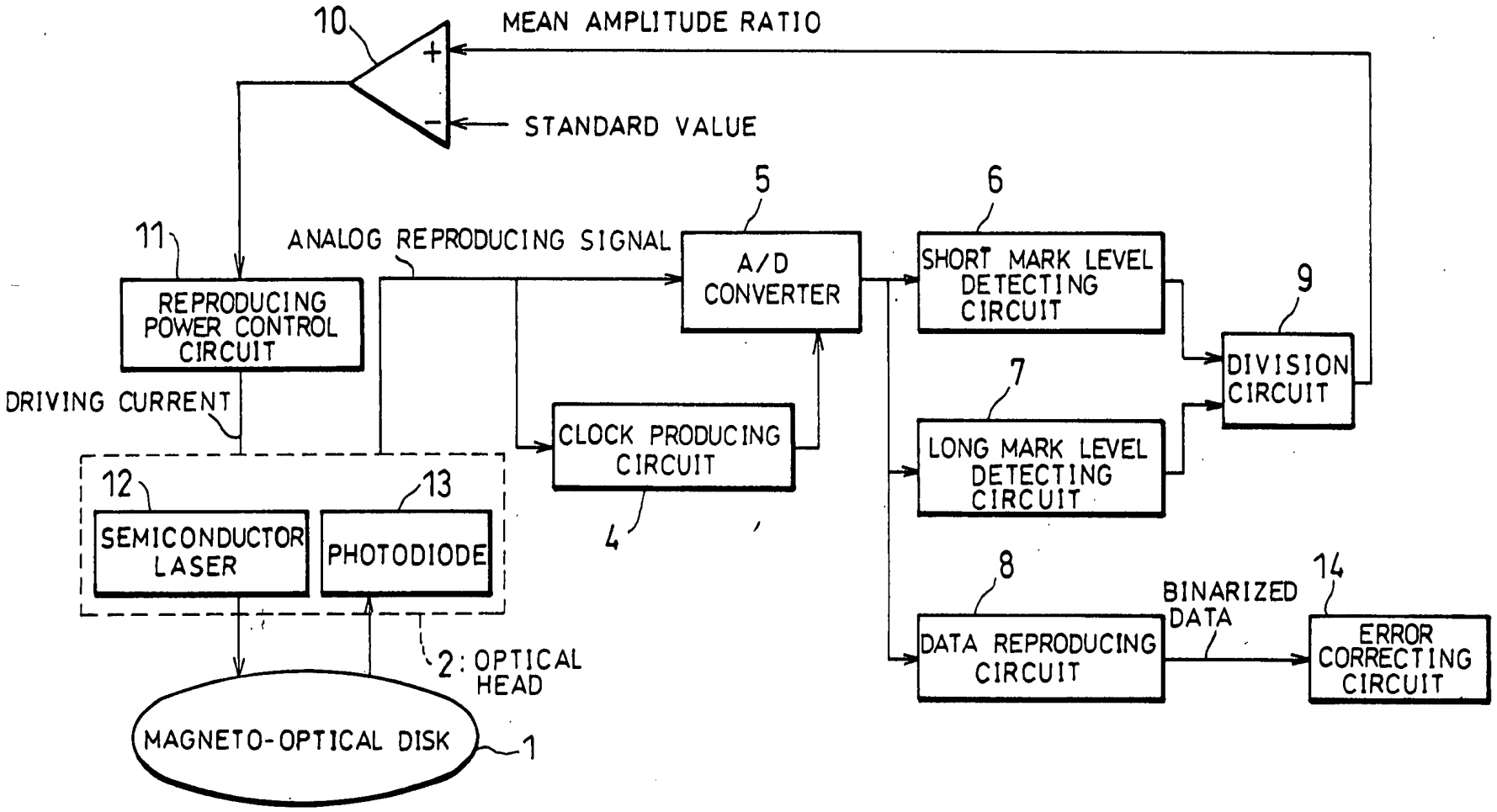

FIG. 2

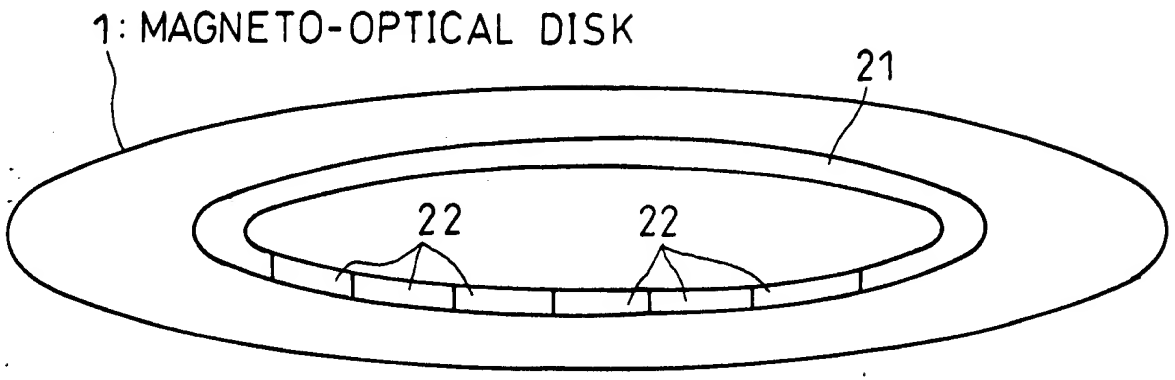
1: MAGNETO-OPTICAL DISK
21
22
22

FIG. 3

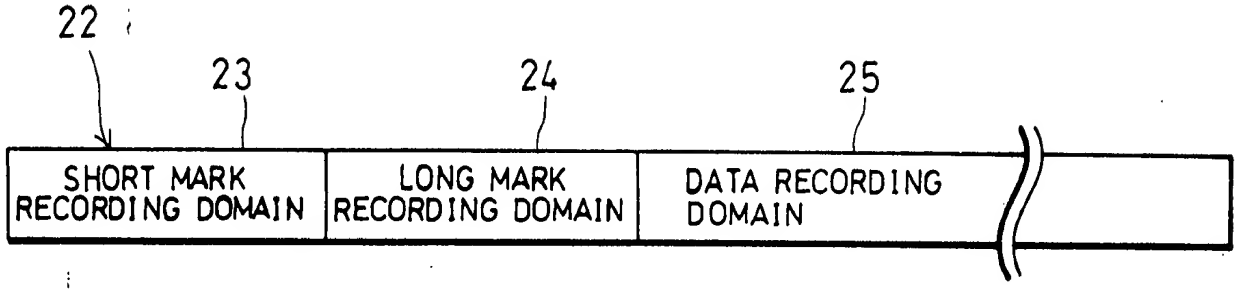
22
23
24
25
SHORT MARK RECORDING DOMAIN
LONG MARK RECORDING DOMAIN
DATA RECORDING DOMAIN

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FIG.4

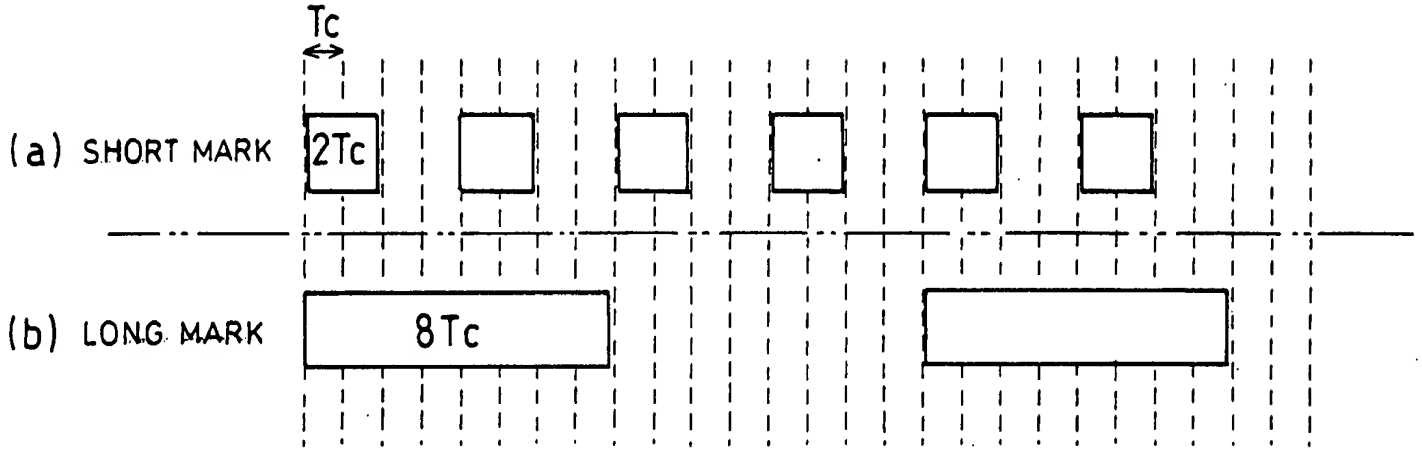

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FIG. 5

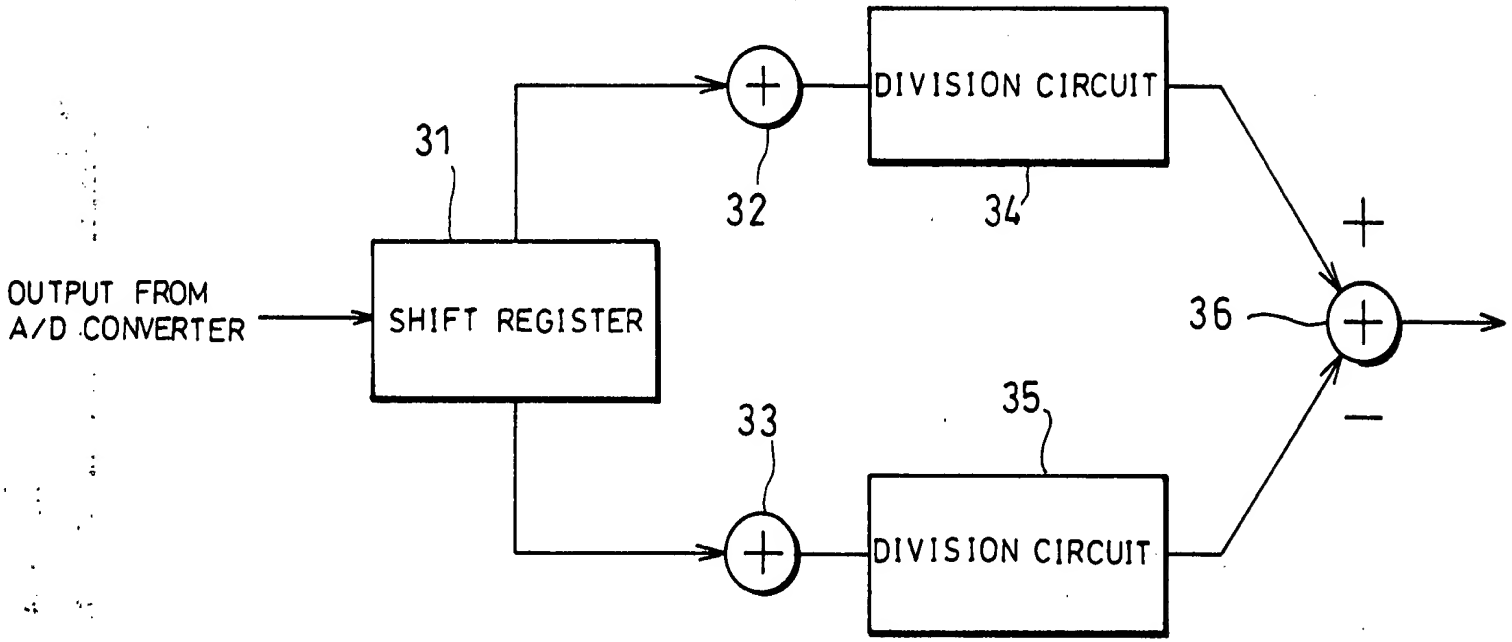
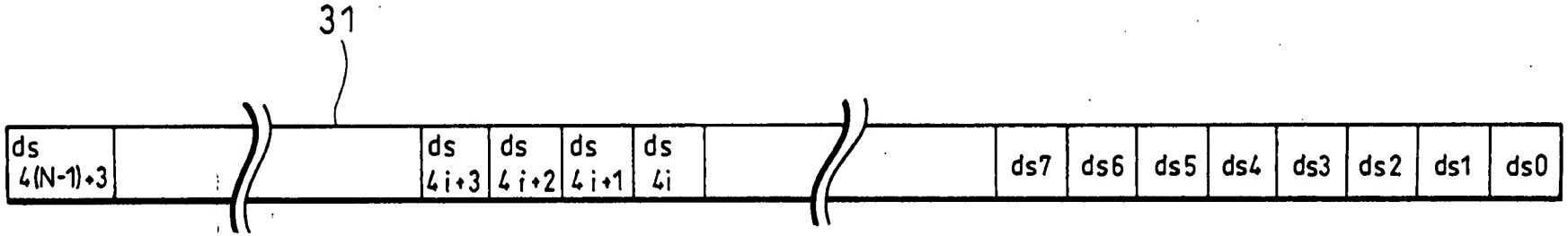



FIG. 6



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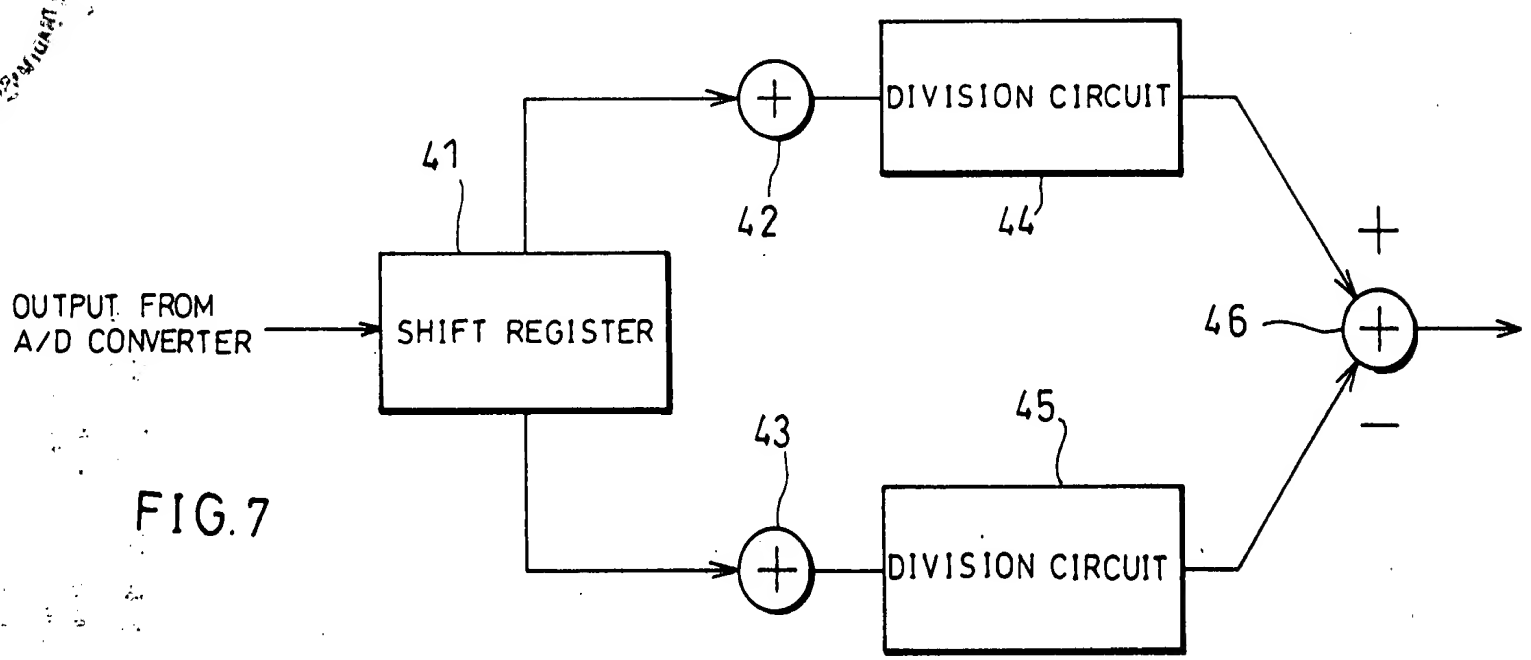


FIG.7

FIG.8

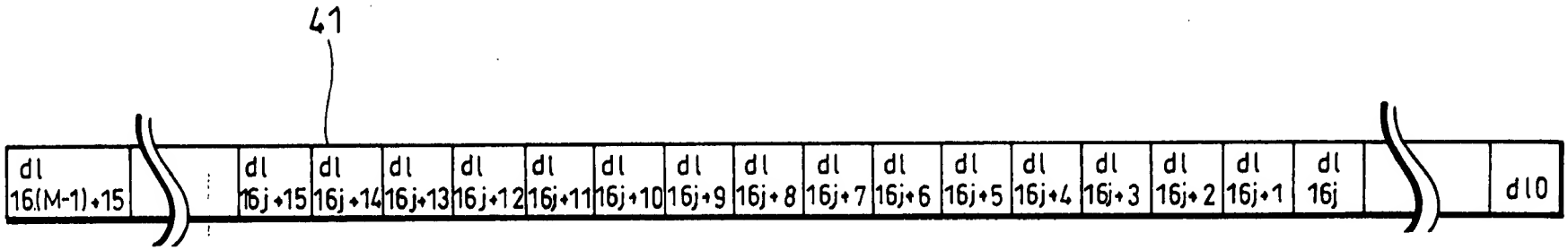

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FIG. 9

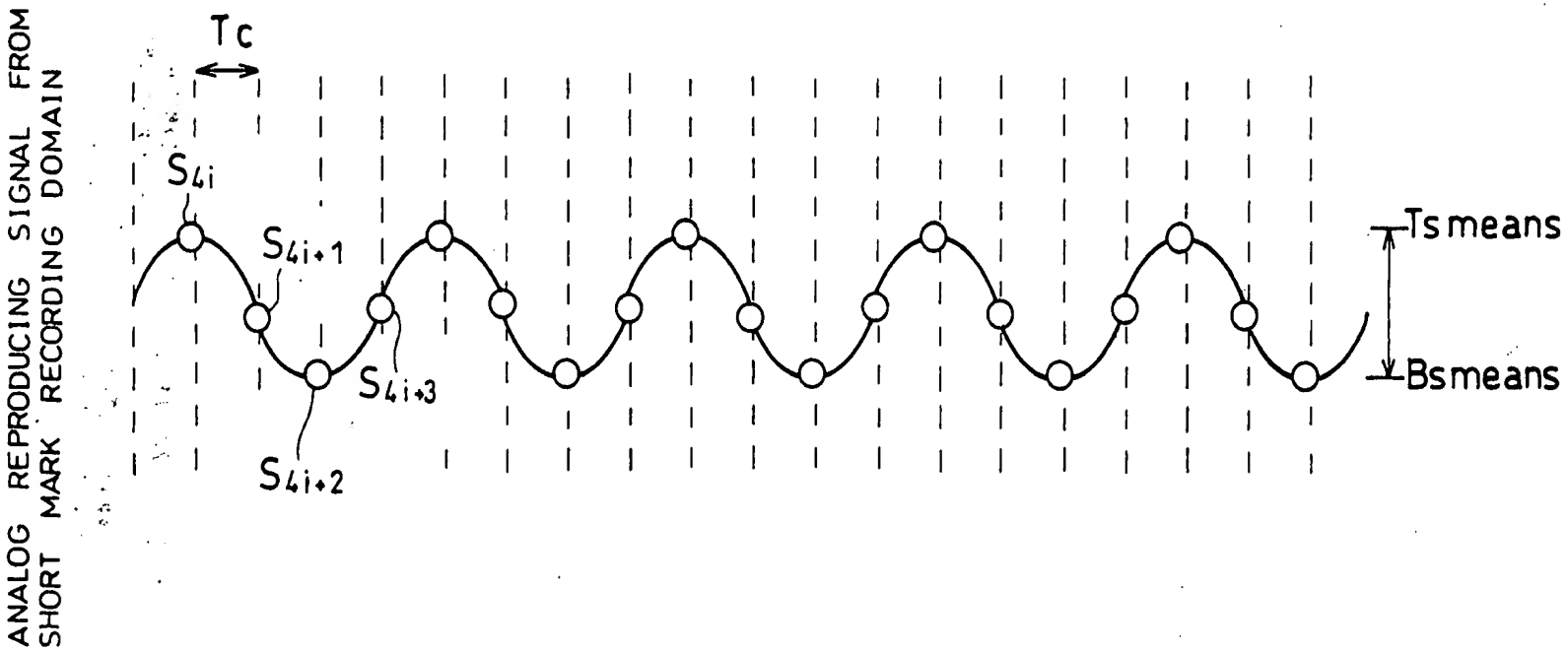

FIG. 10

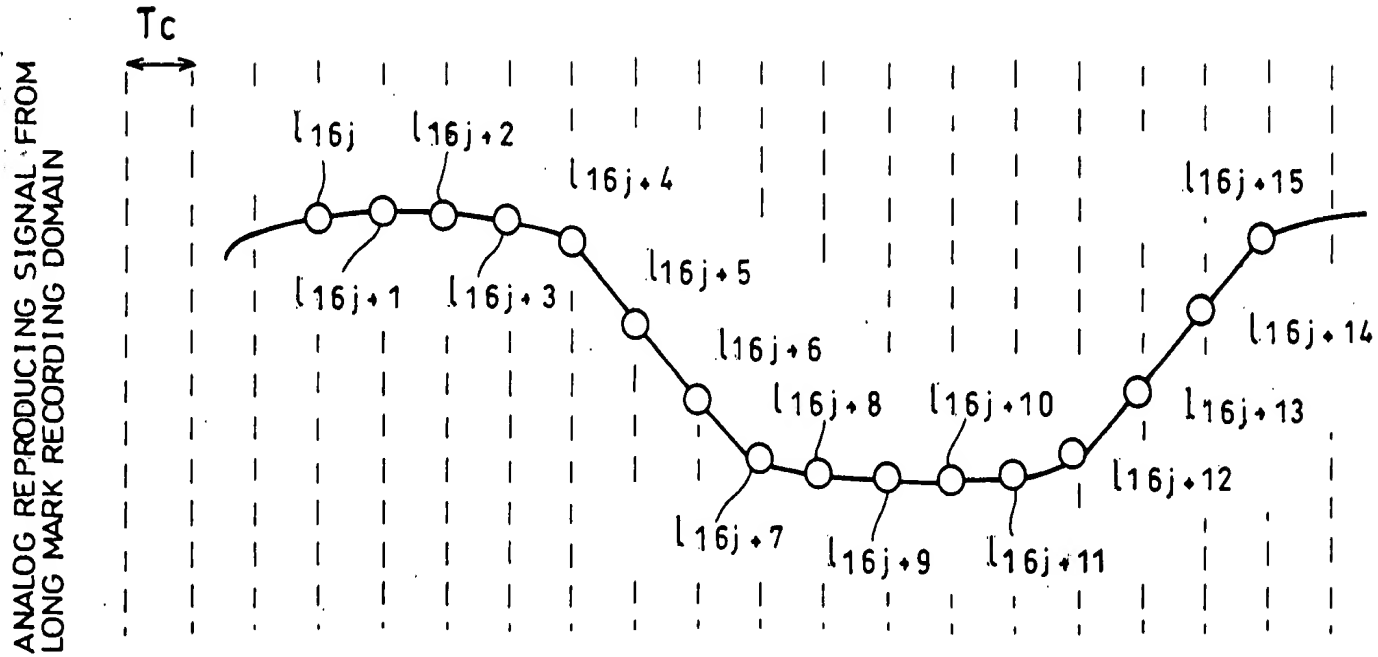
Tc
ANALOG REPRODUCING SIGNAL FROM LONG MARK RECORDING DOMAIN
l16j
l16j+1
l16j+2
l16j+3
l16j+4
l16j+5
l16j+6
l16j+7
l16j+8
l16j+9
l16j+10
l16j+11
l16j+12
l16j+13
l16j+14
l16j+15

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FIG. 11

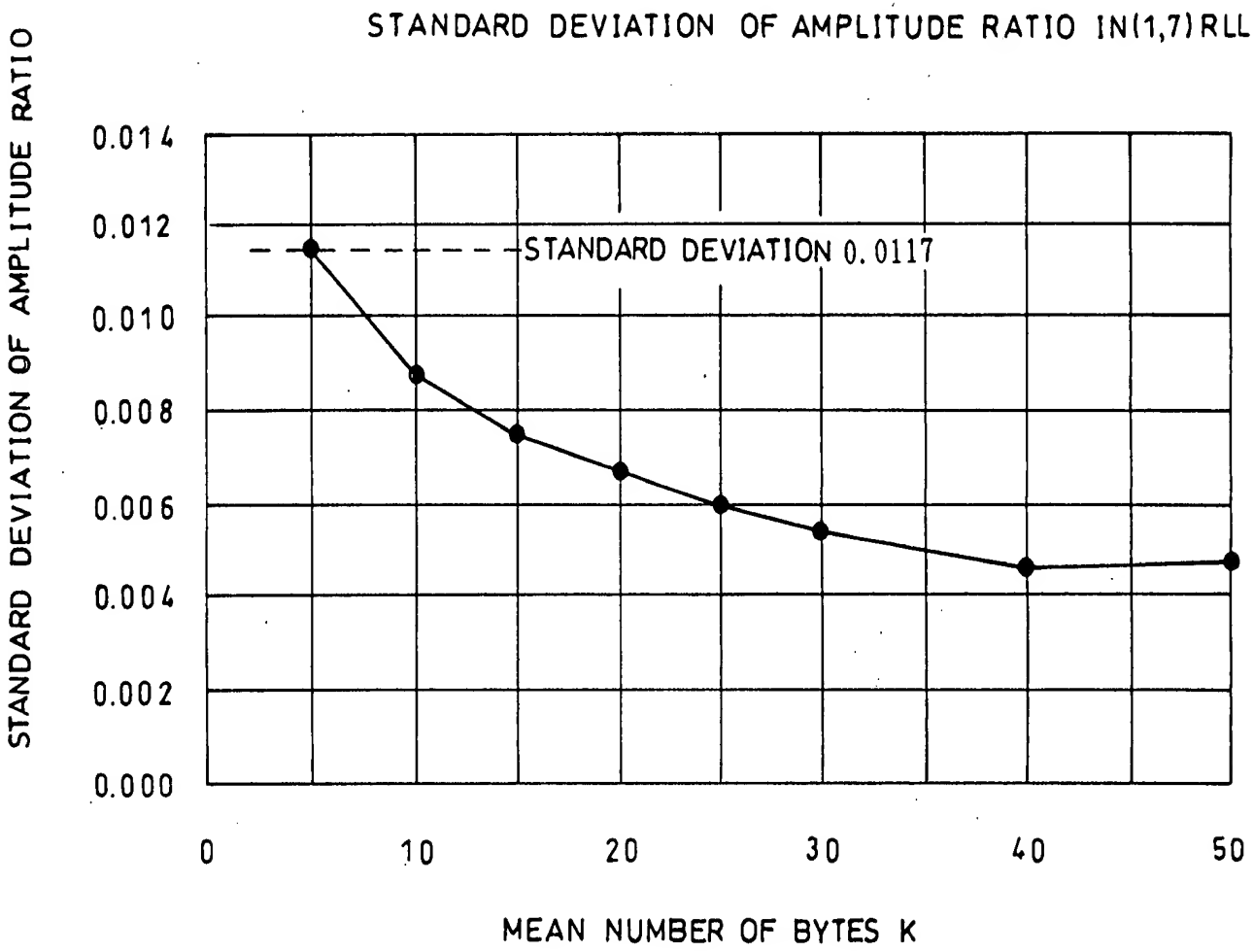

FIG.12

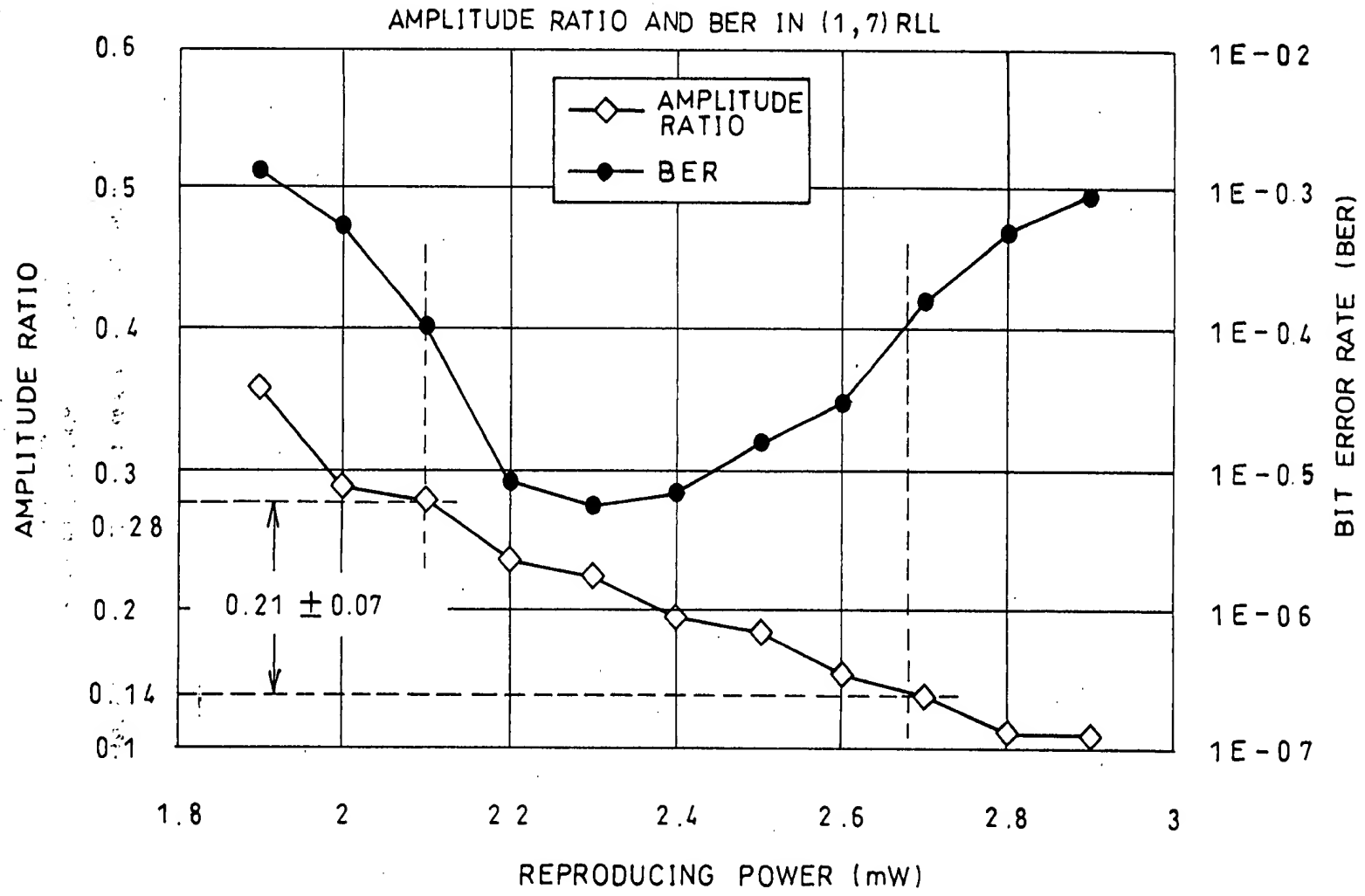
AMPLITUDE RATIO AND BER IN (1,7) RLL
AMPLITUDE RATIO
BER
0.6
0.5
0.4
0.3
0.28
0.2
0.14
0.1
0.21 ± 0.07
1E-02
1E-03
1E-04
1E-05
1E-06
1E-07
BIT ERROR RATE (BER)
1.8
2
2.2
2.4
2.6
2.8
3
REPRODUCING POWER (mW)

FIG.13

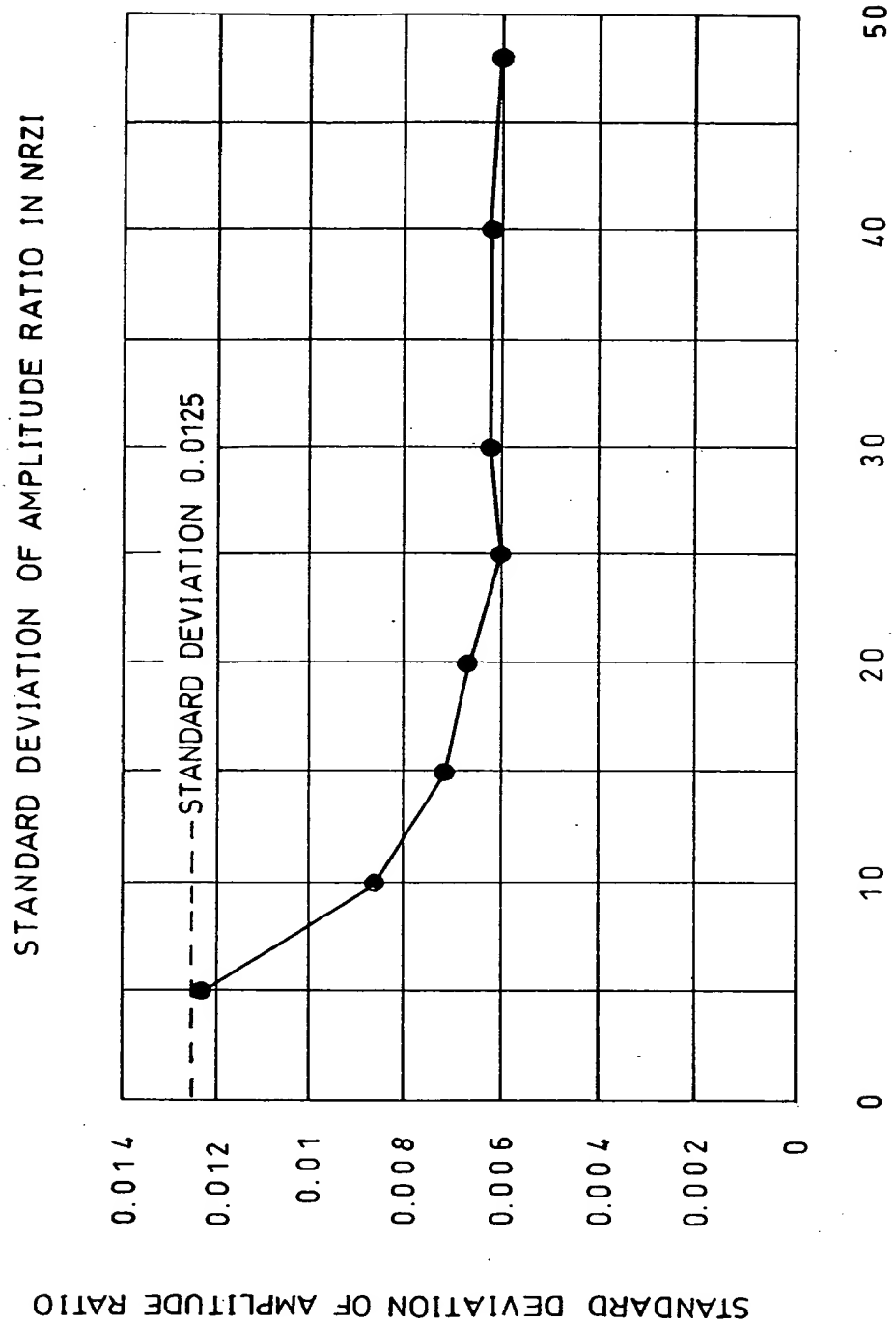
STANDARD DEVIATION OF AMPLITUDE RATIO IN NRZI
STANDARD DEVIATION 0.0125
STANDARD DEVIATION OF AMPLITUDE RATIO
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
0
10
20
30
40
50
MEAN NUMBER OF BYTES K'

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FIG.14

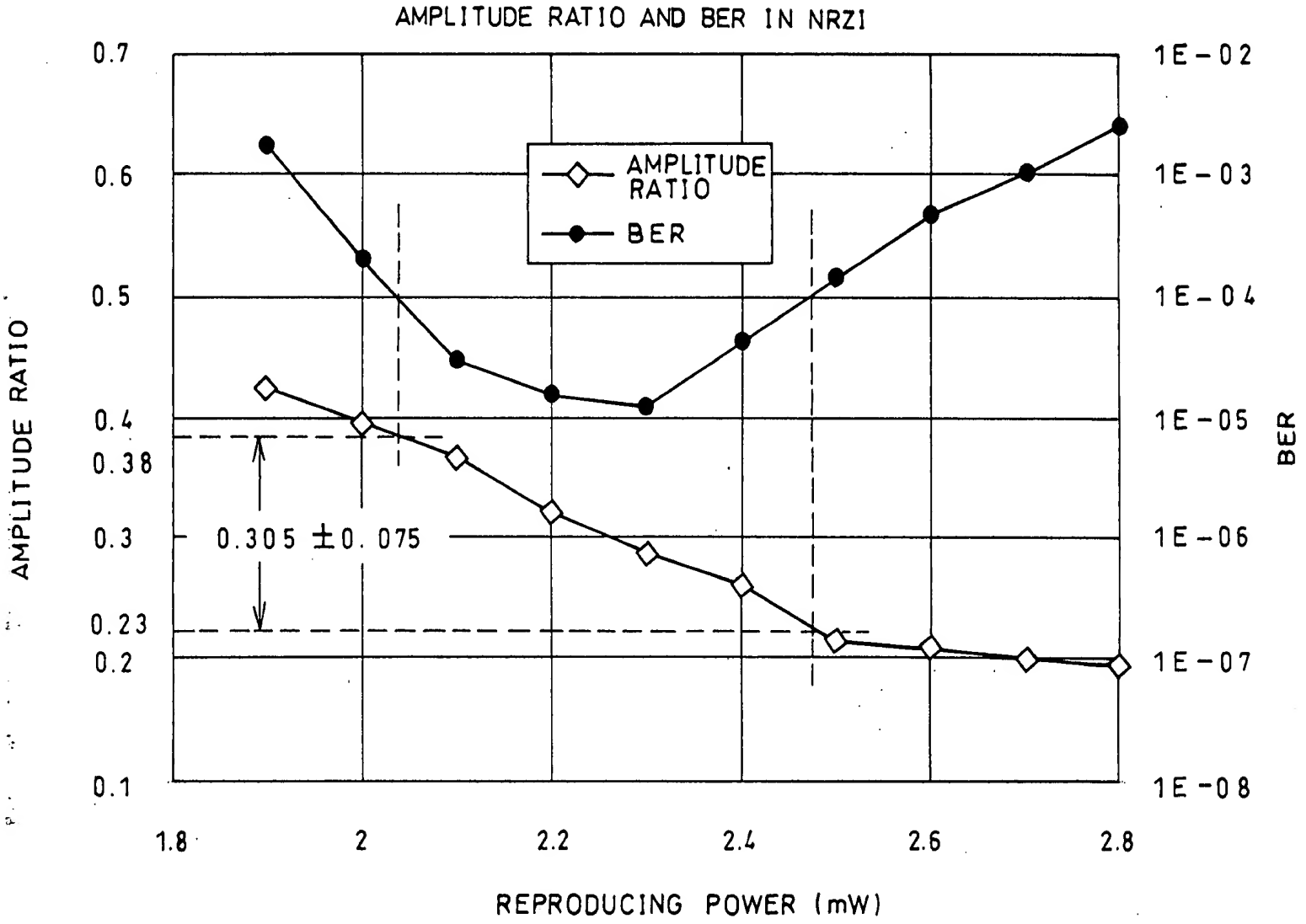

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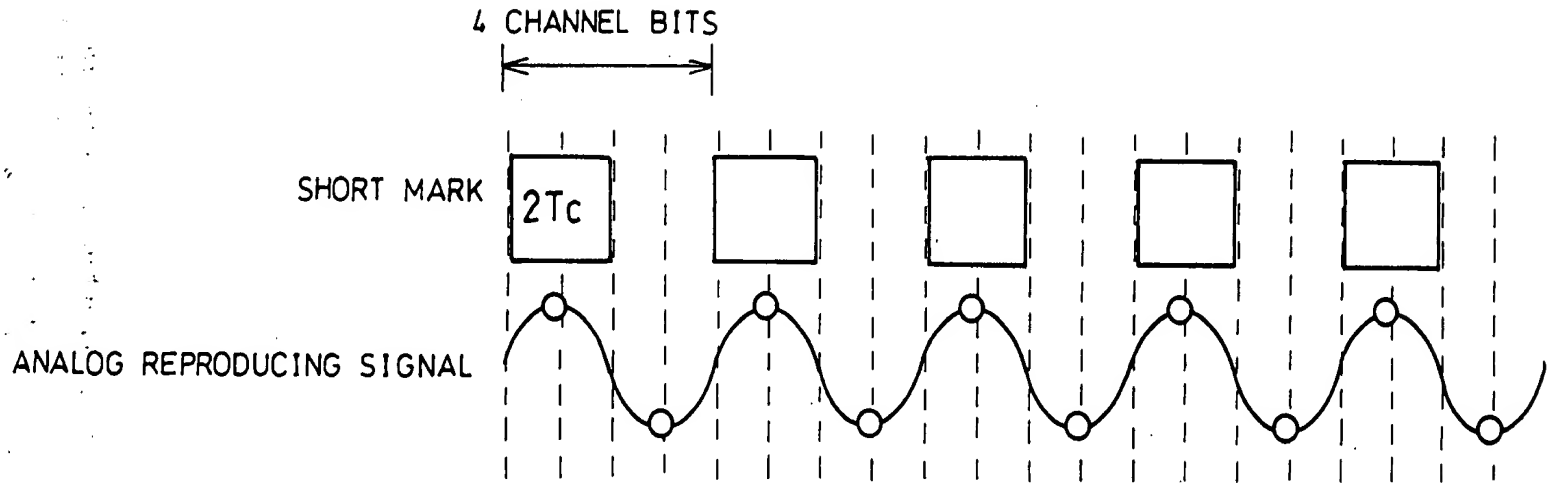
FIG.15



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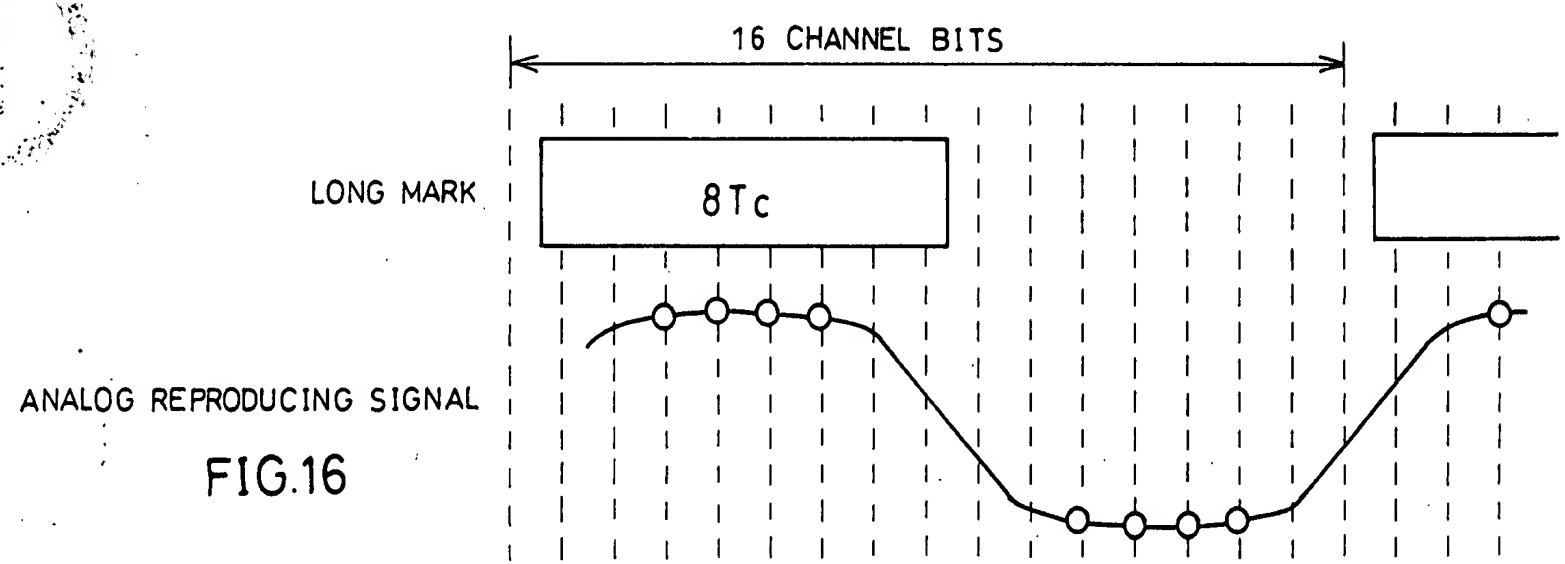


FIG.16

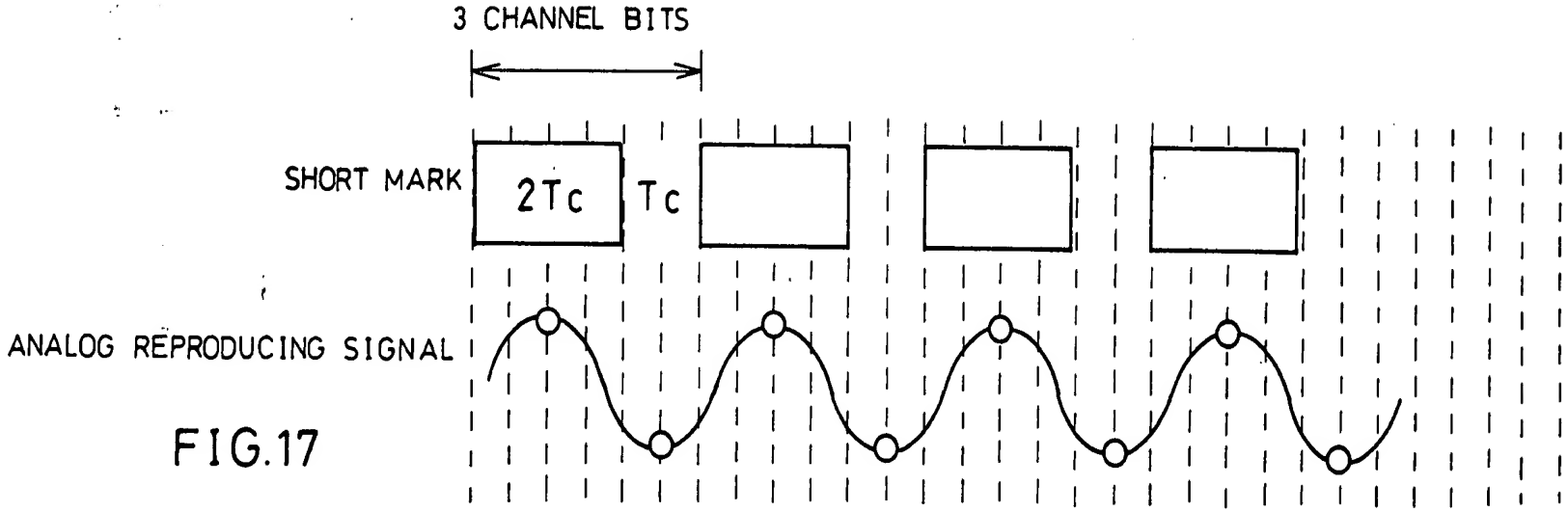


FIG.17

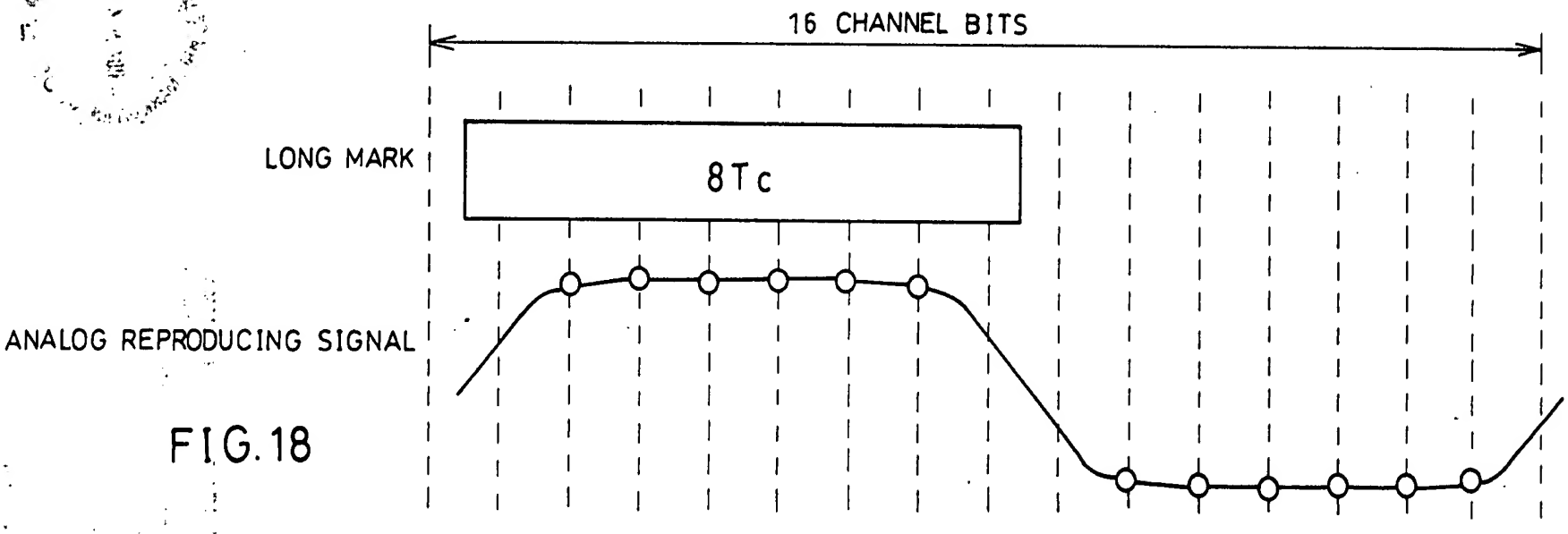
16 CHANNEL BITS
LONG MARK
8Tc
ANALOG REPRODUCING SIGNAL

FIG. 18

FIG. 21

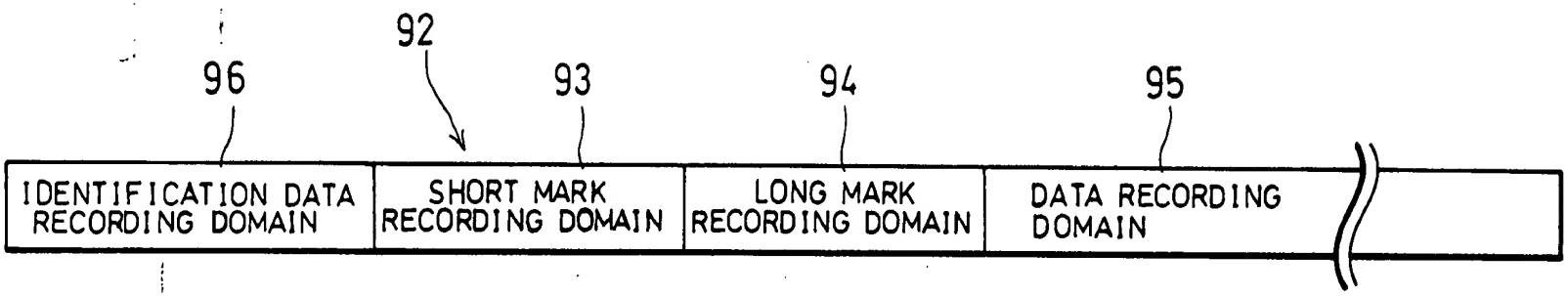
96
92
93
94
95
IDENTIFICATION DATA RECORDING DOMAIN
SHORT MARK RECORDING DOMAIN
LONG MARK RECORDING DOMAIN
DATA RECORDING DOMAIN

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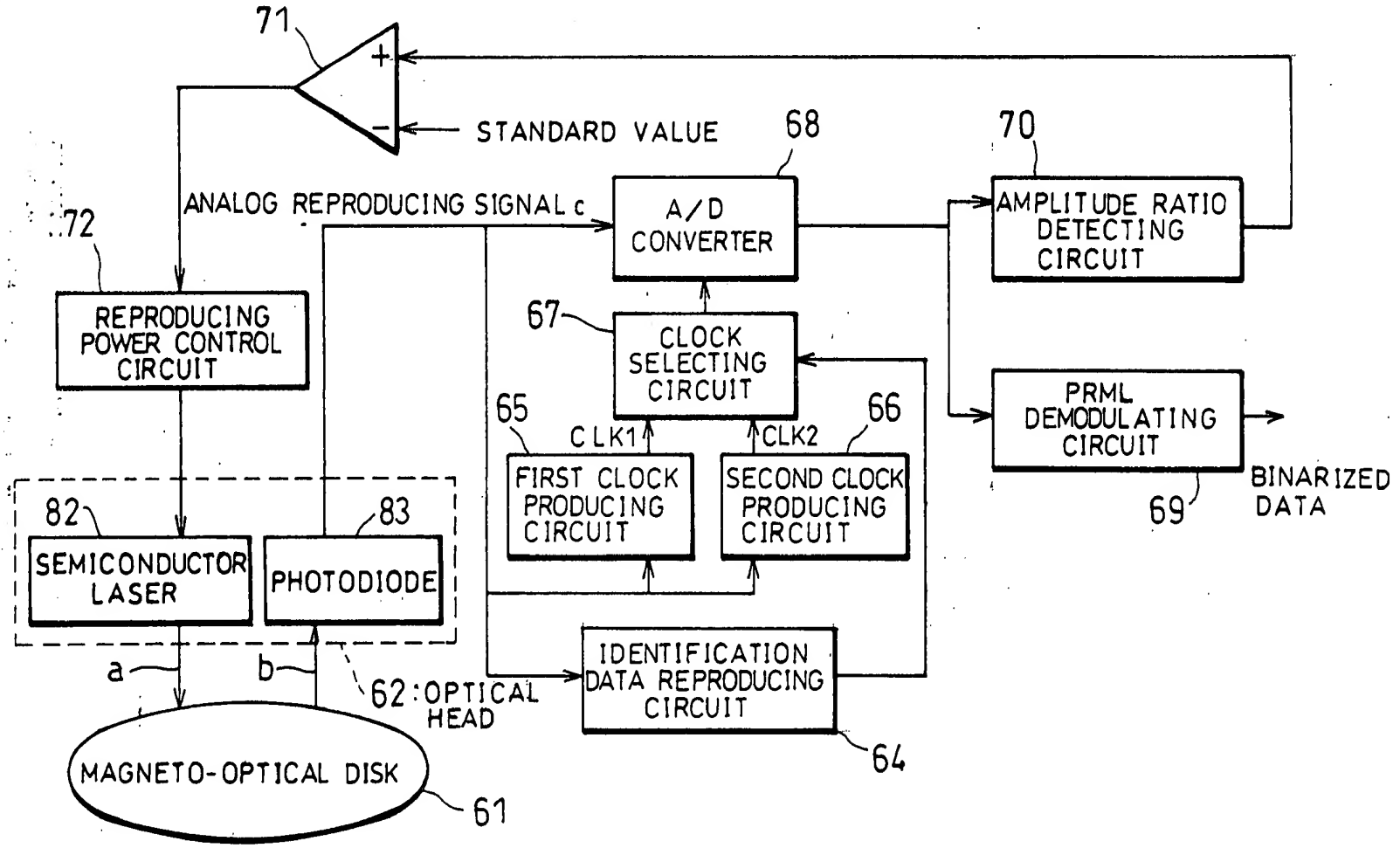
FIG. 19



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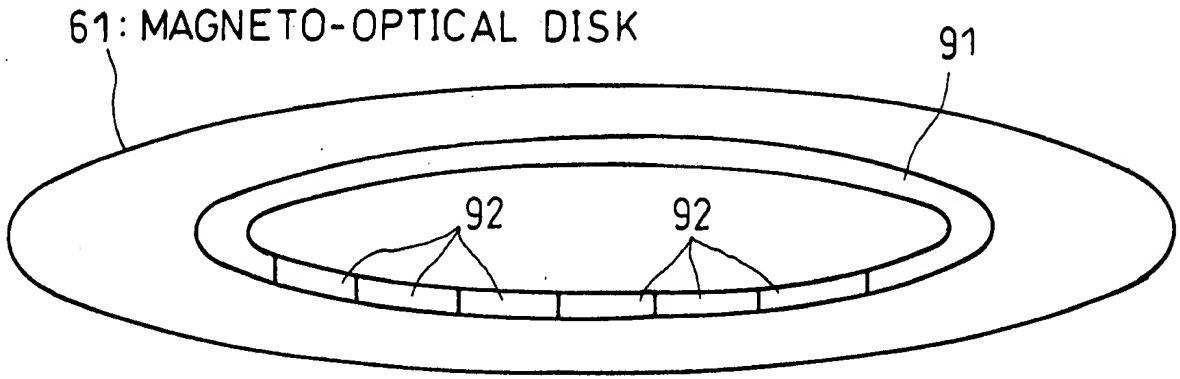


FIG. 20

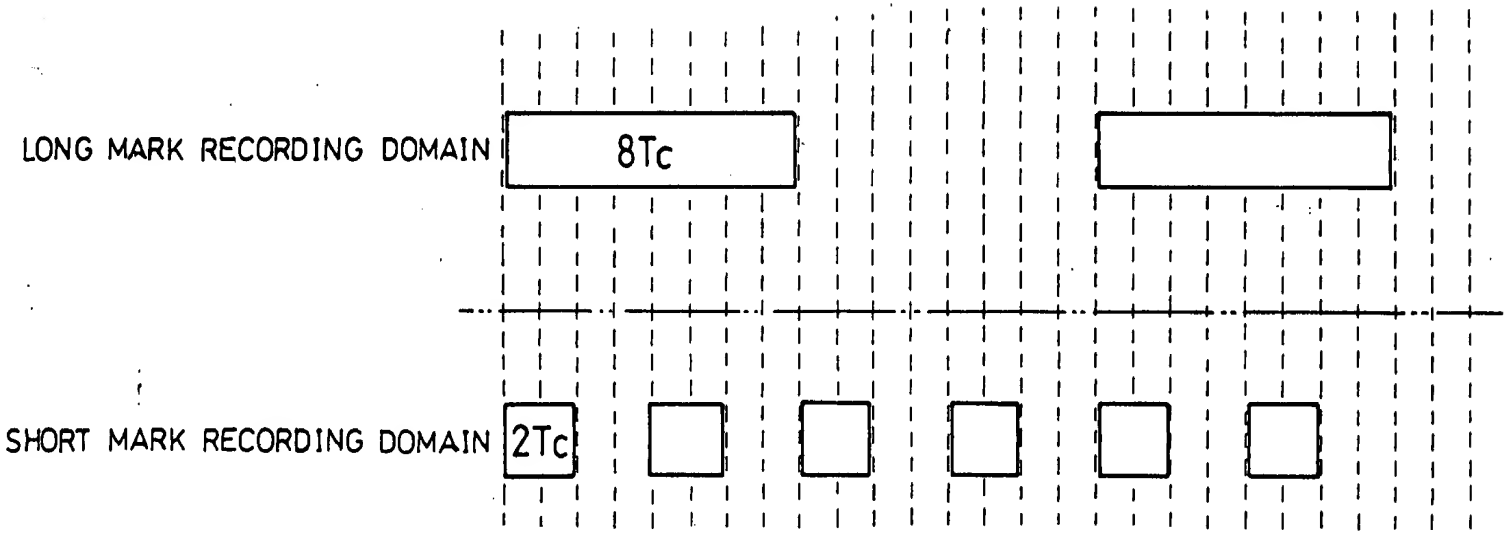


FIG. 22

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FIG. 23

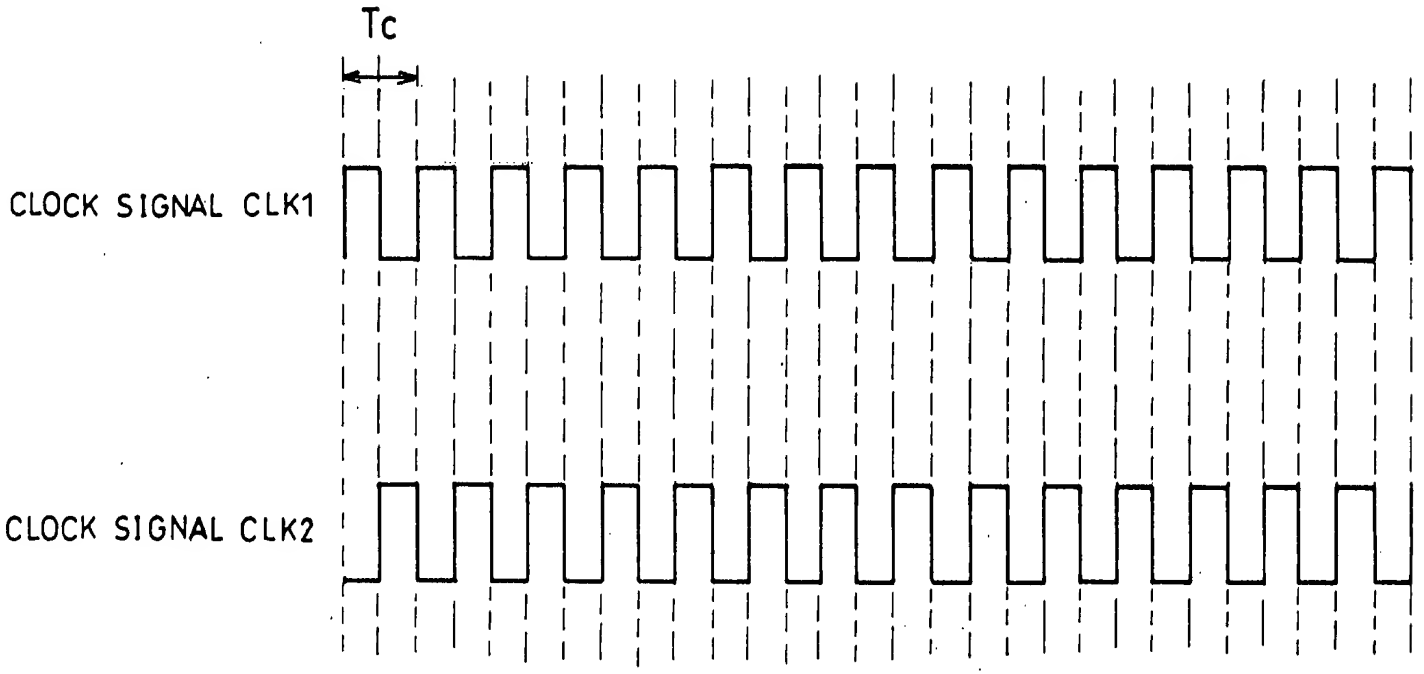

FIG. 24

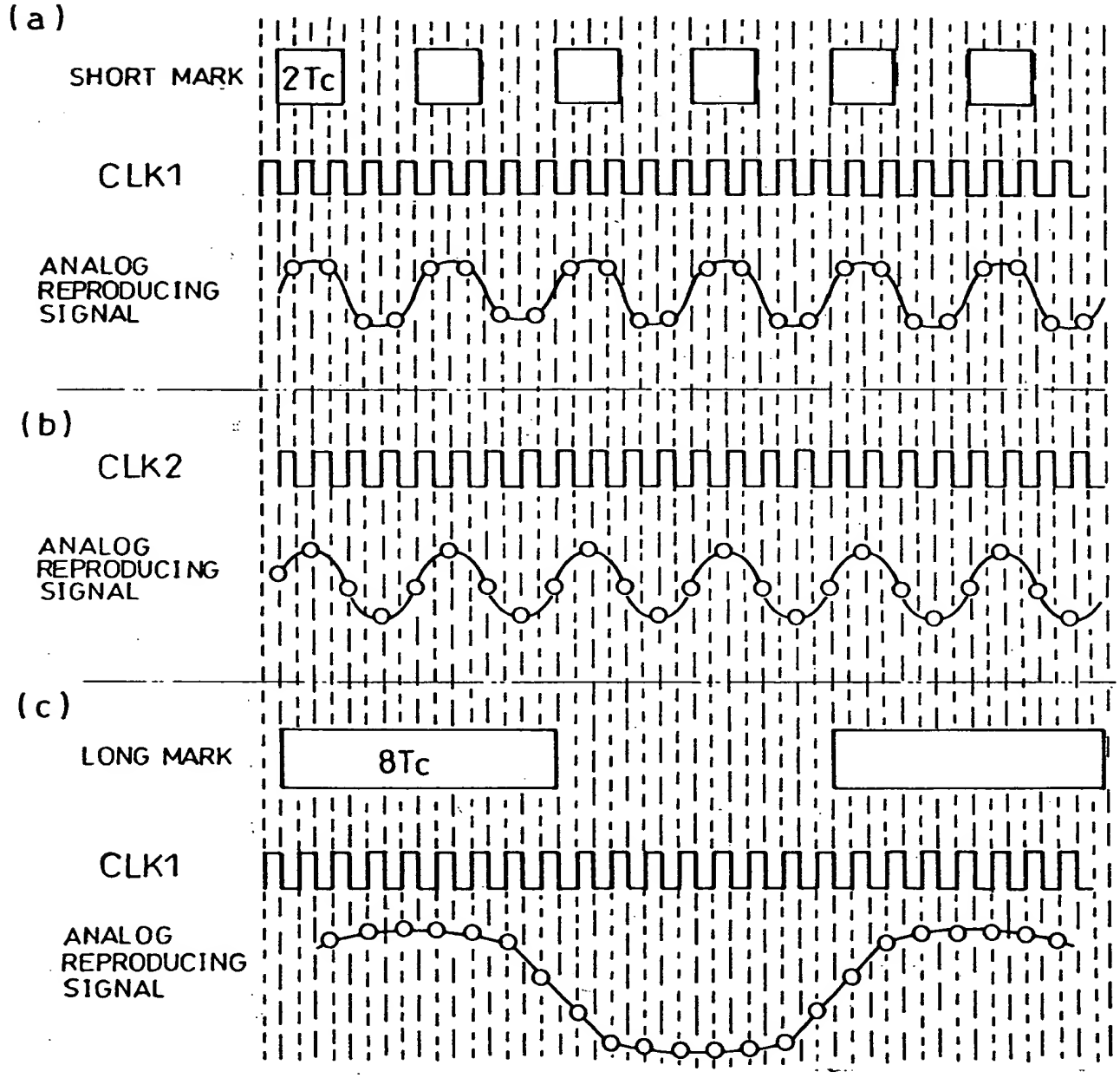
(a)
SHORT MARK
2Tc
CLK1
ANALOG REPRODUCING SIGNAL
(b)
CLK2
ANALOG REPRODUCING SIGNAL
(c)
LONG MARK
8Tc
CLK1
ANALOG REPRODUCING SIGNAL

FIG.25

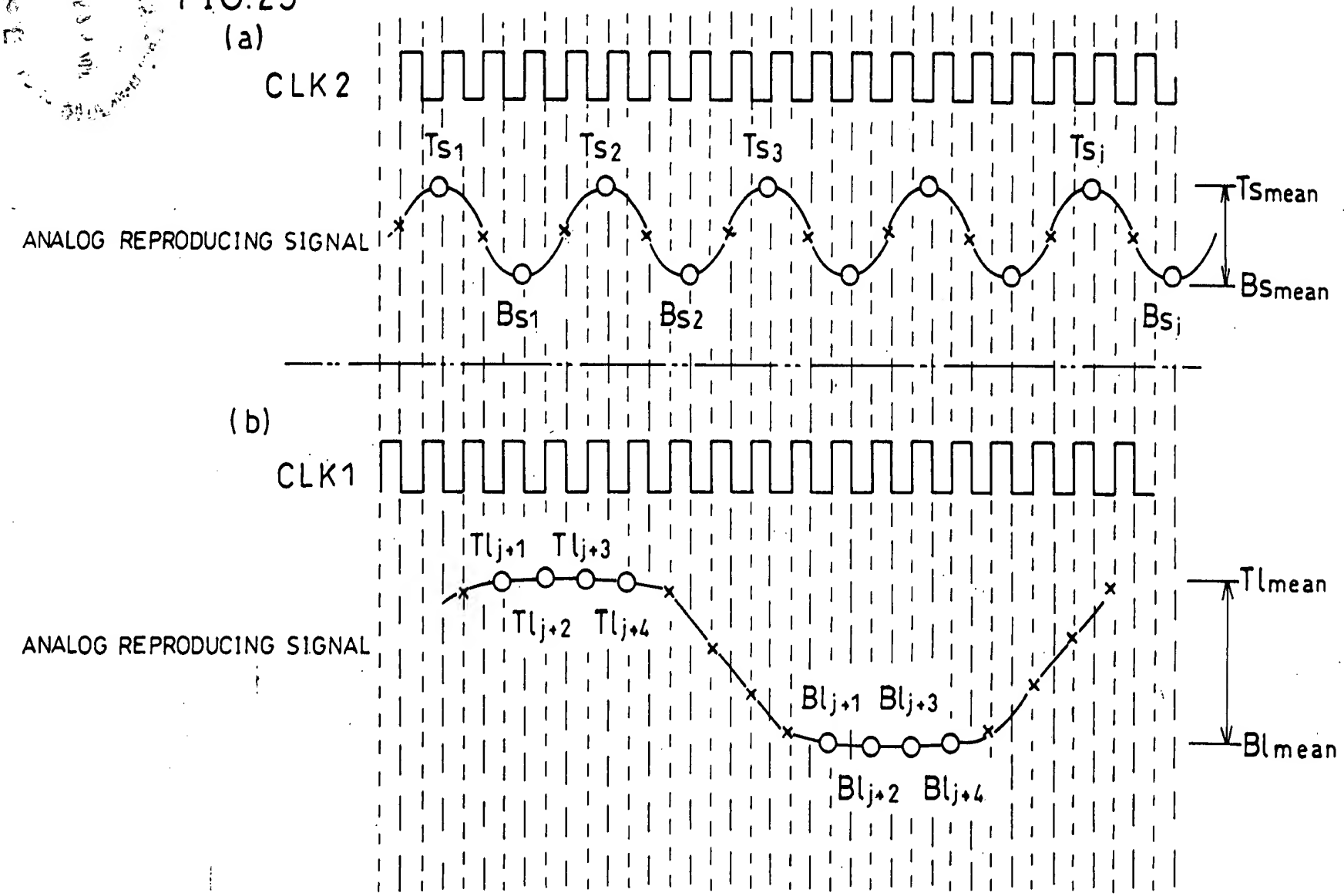
(a)
CLK2
Ts1
Ts2
Ts3
Tsj
Tsmean
ANALOG REPRODUCING SIGNAL
Bsmean
Bs1
Bs2
Bsj
(b)
CLK1
Tlj+1 Tlj+3
Tlmean
Tlj+2 Tlj+4
ANALOG REPRODUCING SIGNAL
Blj+1 Blj+3
Blmean
Blj+2 Blj+4

FIG. 26

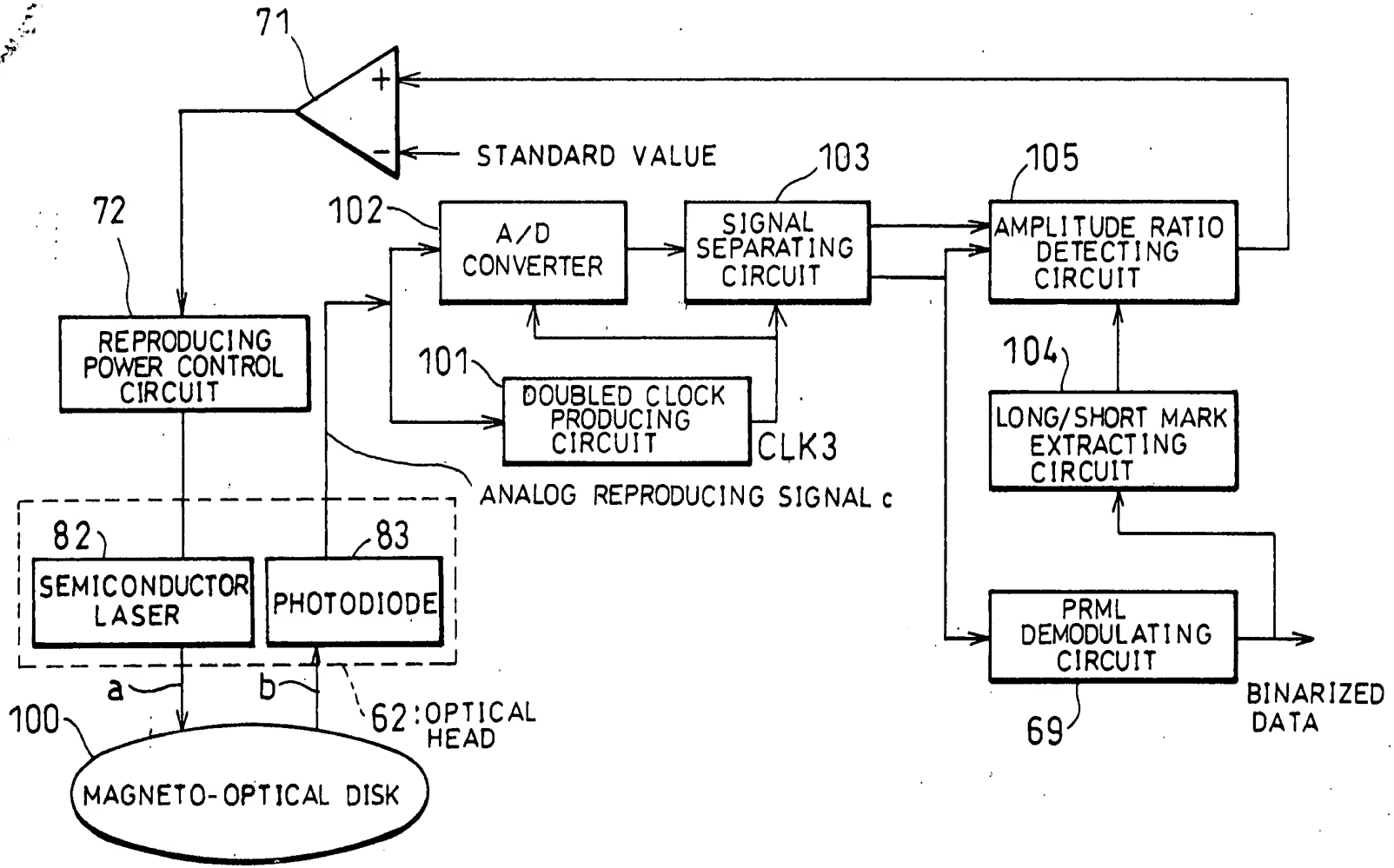
71
+
-
STANDARD VALUE
103
105
72
102
A/D CONVERTER
SIGNAL SEPARATING CIRCUIT
AMPLITUDE RATIO DETECTING CIRCUIT
REPRODUCING POWER CONTROL CIRCUIT
101
DOUBLED CLOCK PRODUCING CIRCUIT
CLK3
104
LONG/SHORT MARK EXTRACTING CIRCUIT
ANALOG REPRODUCING SIGNAL c
82
83
SEMICONDUCTOR LASER
PHOTODIODE
PRML DEMODULATING CIRCUIT
a
b
62 : OPTICAL HEAD
100
MAGNETO-OPTICAL DISK
69
BINARIZED DATA

FIG. 27

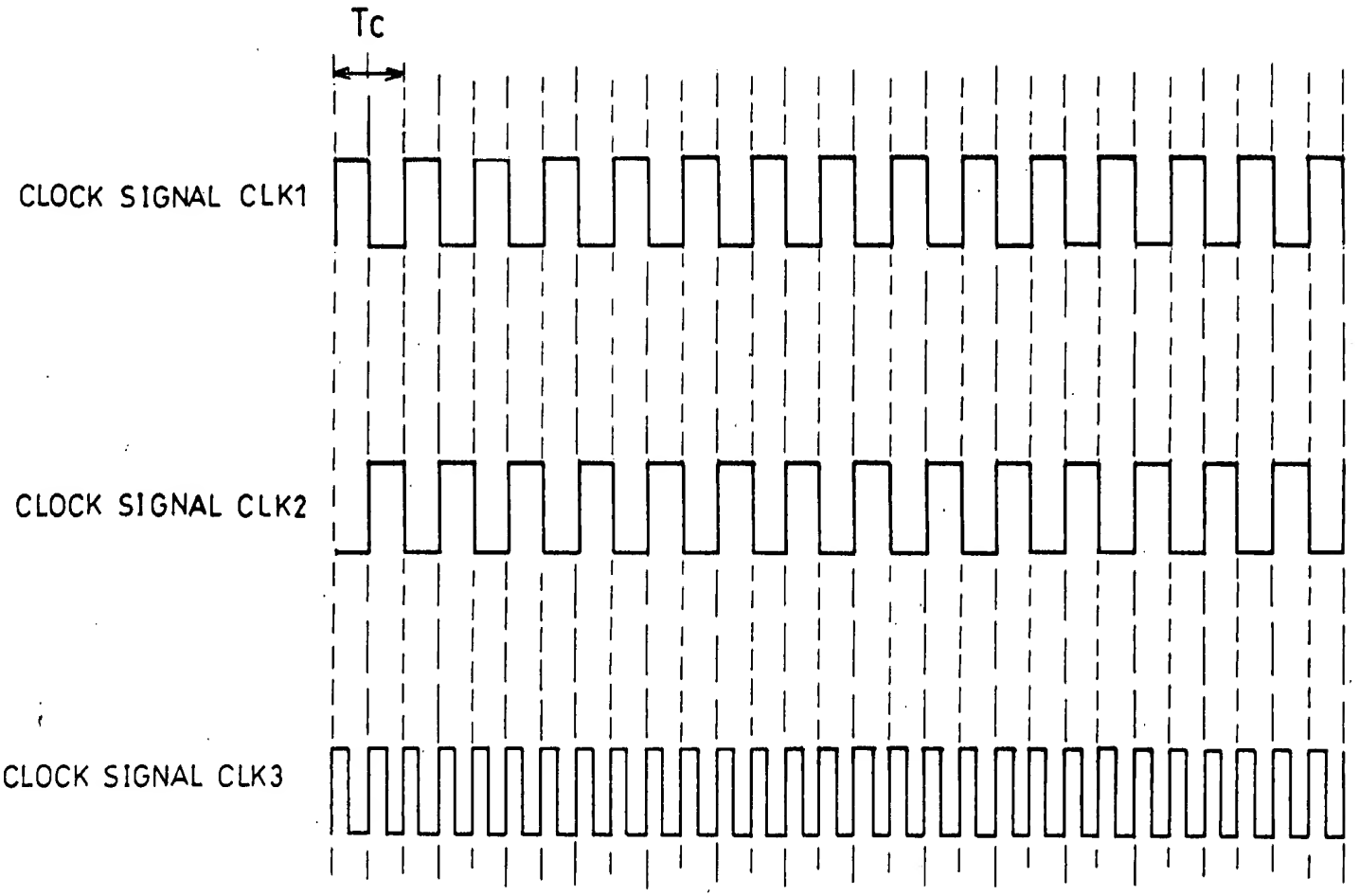

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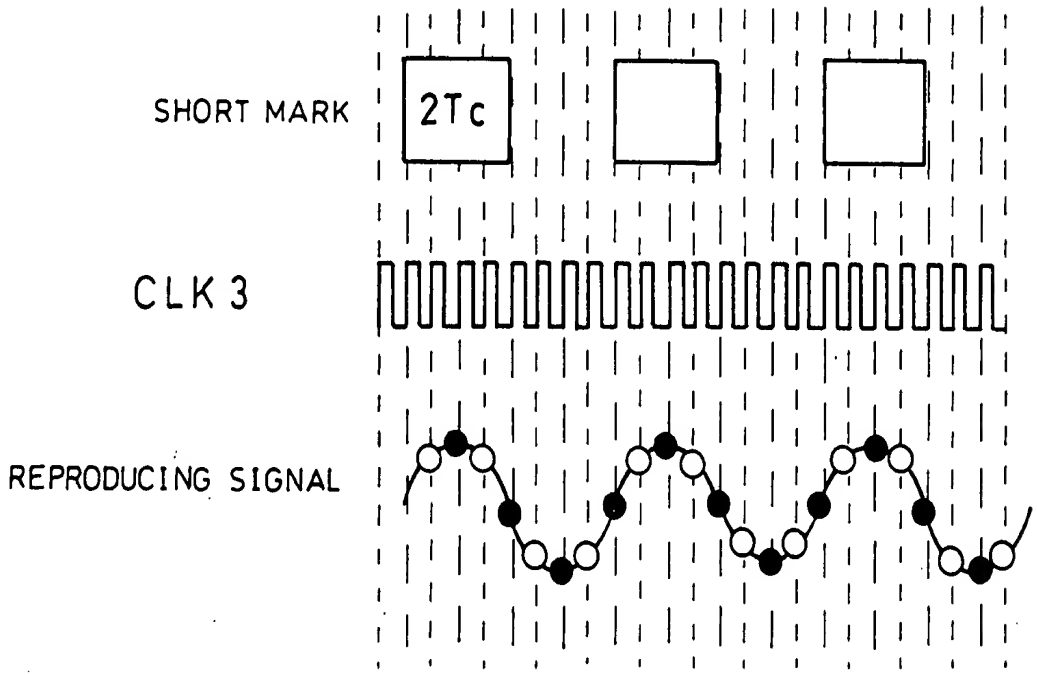
FIG.28




○ : PRML DETECTION SAMPLING POINT

● : PEAK DETECTION SAMPLING MARK FOR 2Tc MARK

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FIG. 29

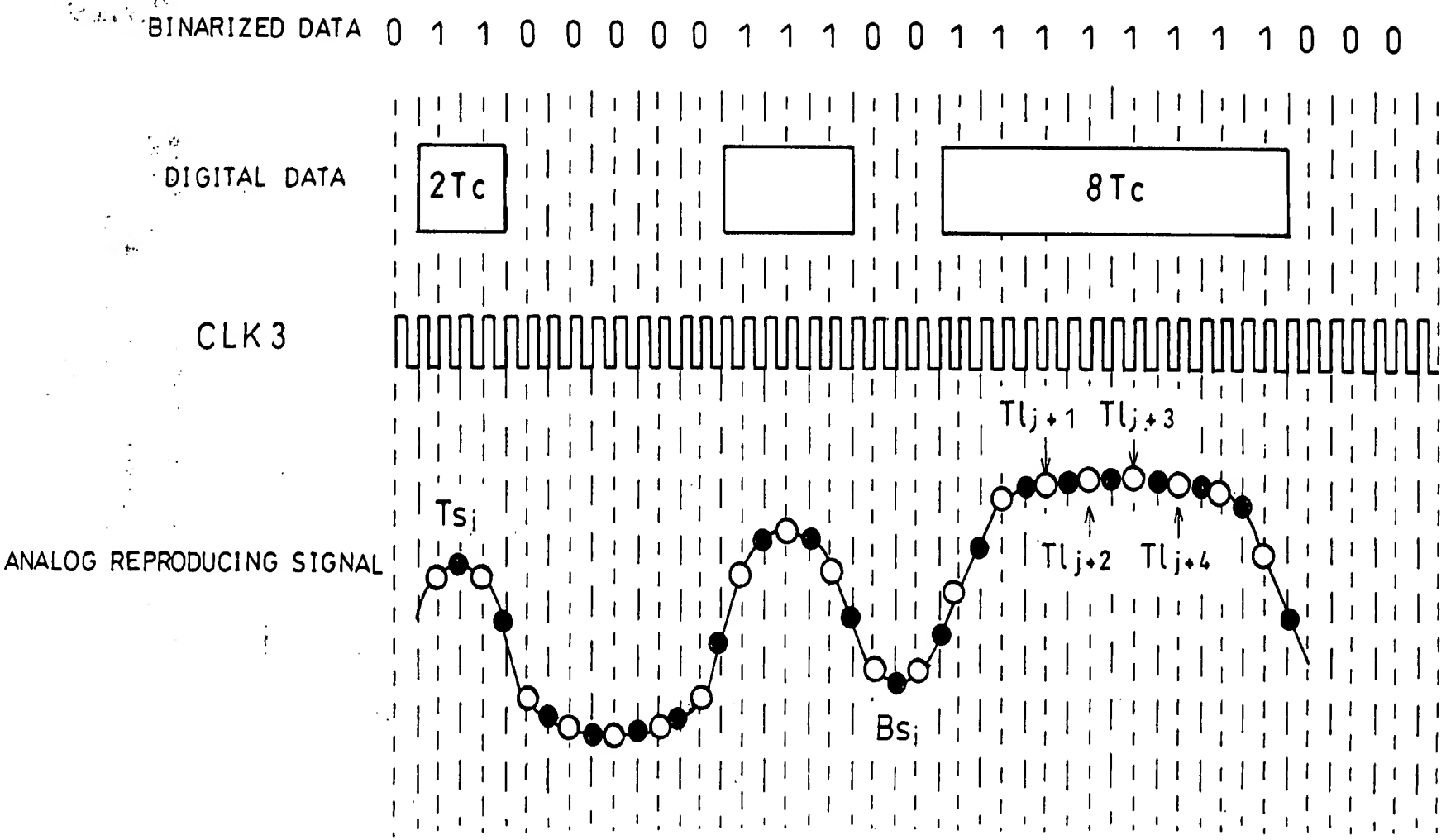

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FIG. 30

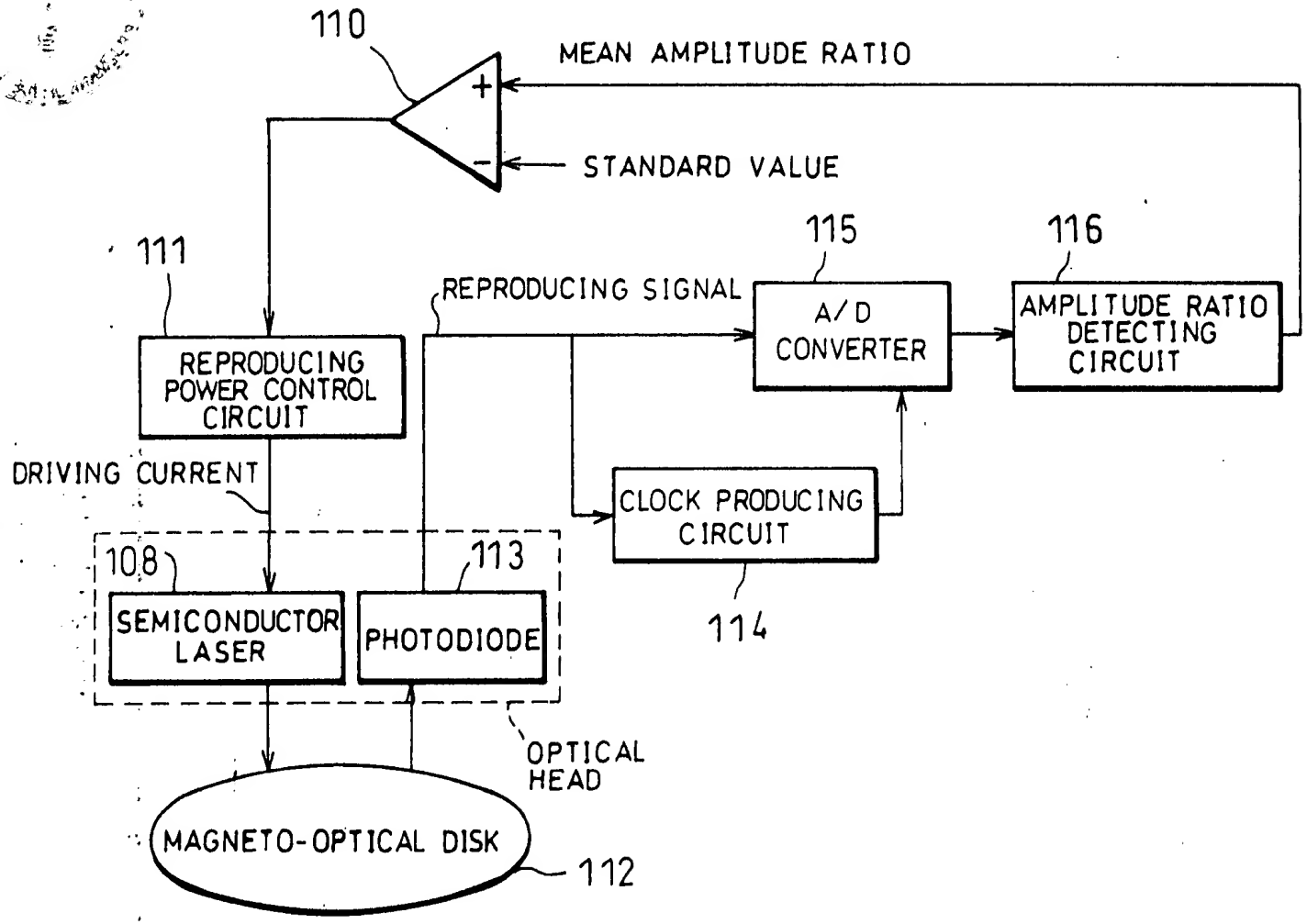

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FIG. 31

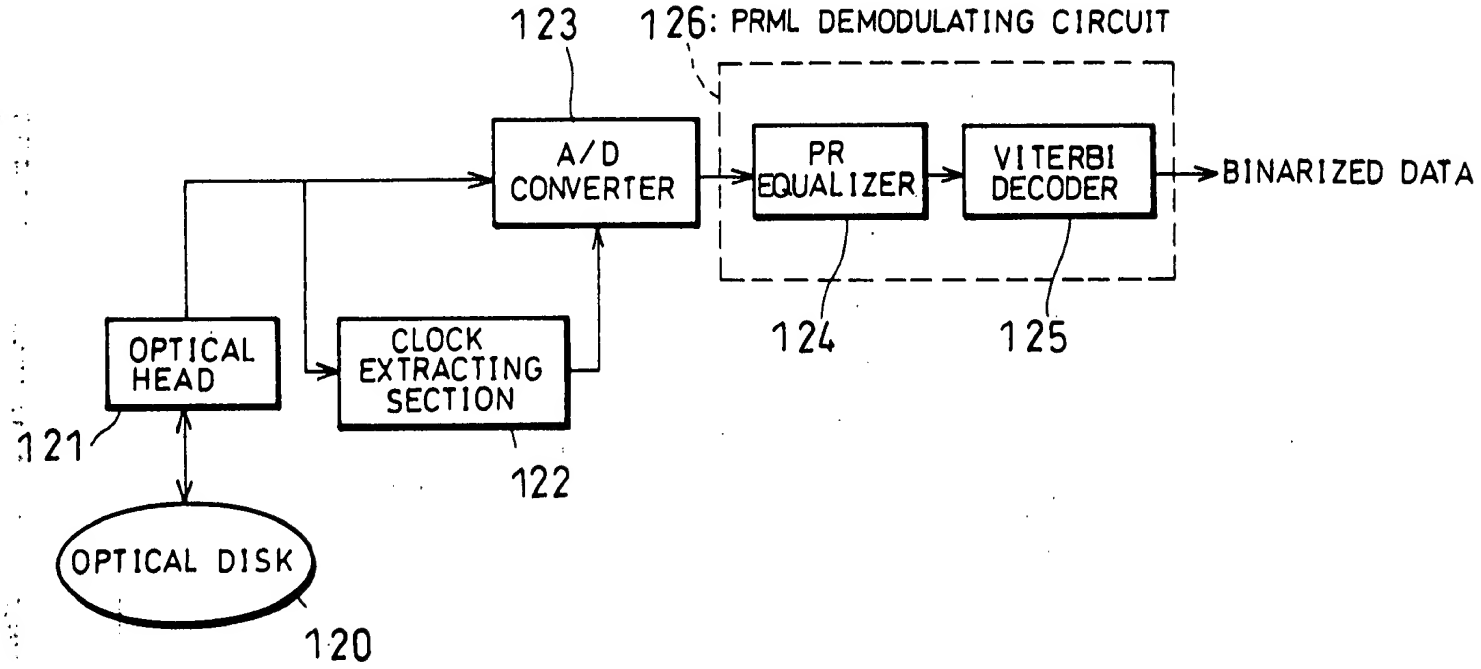

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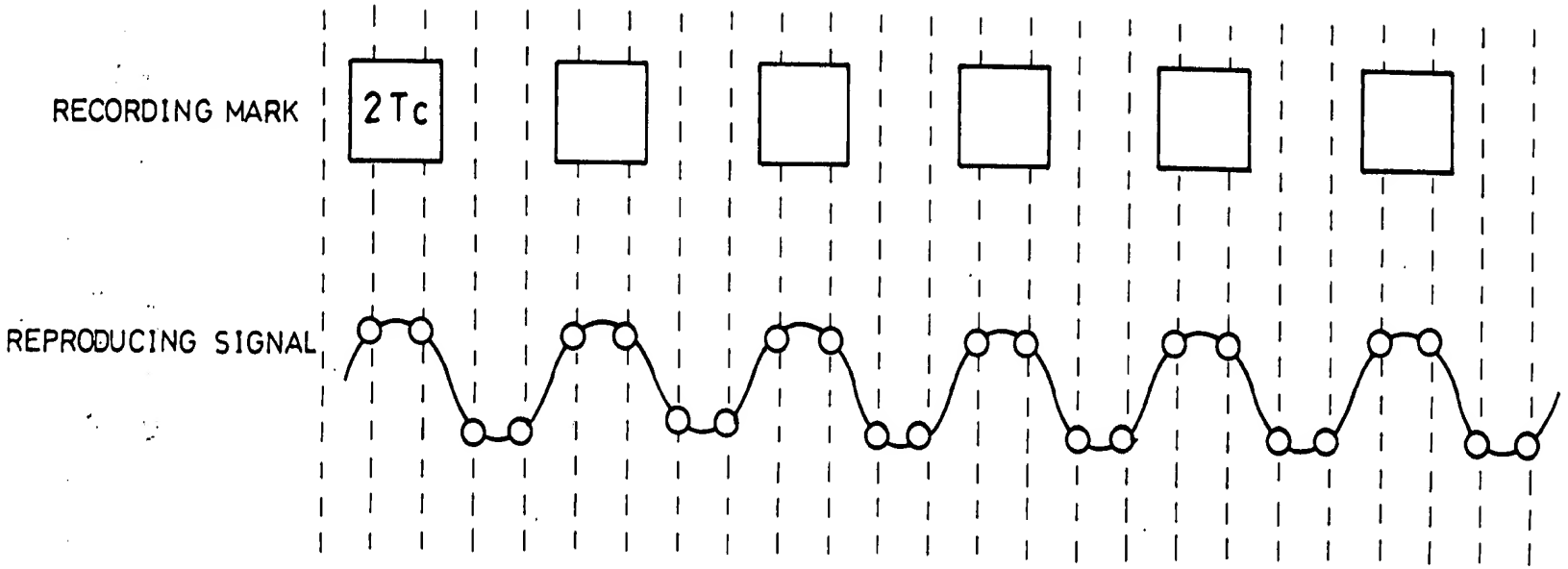
FIG. 32




○ : SAMPLING POINT IN PR(1,2,1)ML DETECTION

FIG. 33

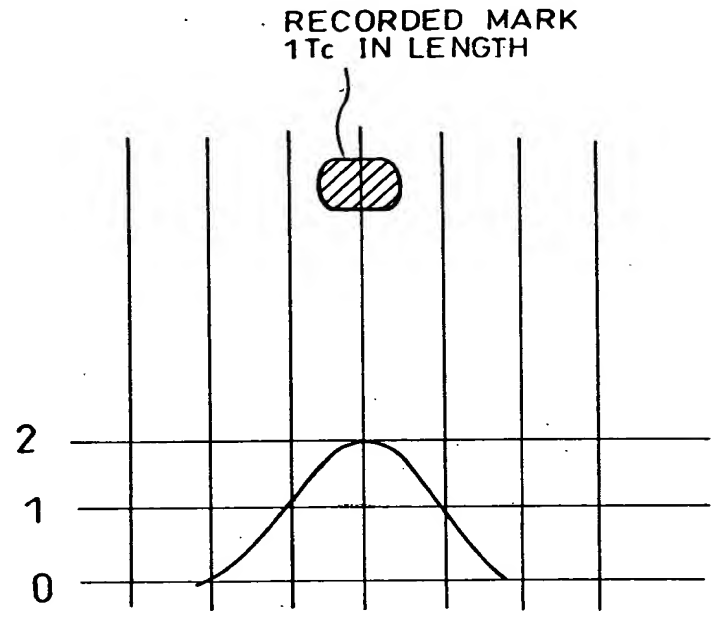
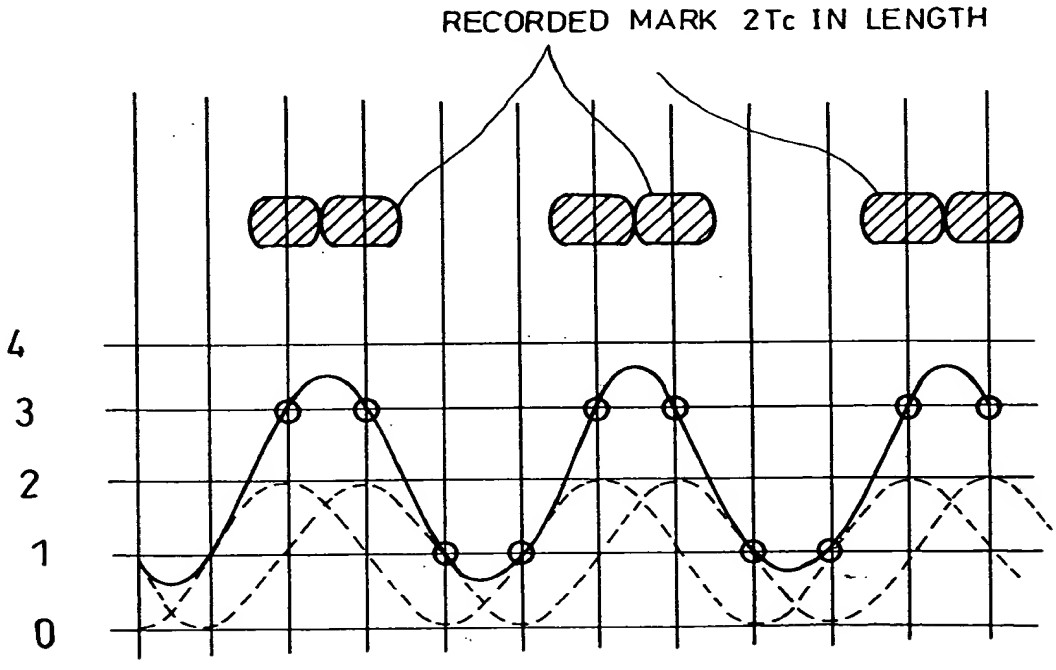

RECORDED MARK
1Tc IN LENGTH
2
1
0

FIG. 34


RECORDED MARK 2Tc IN LENGTH
4
3
2
1
0